

Claims

What is claimed is:

1. An attached file management system for managing an attached file attached to electronic information transmitted and received by a plurality of terminal units, the system comprising:

intermediation means which intermediates transmission and reception of the electronic information;

server storage means which stores a plurality of files and server storage information indicating identification information of the files and storage location information in a predetermined storage area;

file management means which determines whether electronic information transmitted by a terminal unit contains a file and:

if the file is contained in the electronic information, the file management means determines whether the information exists in the storage area based on the server storage information; and

if the file is not contained in the electronic information, the file management means stores the file in the storage area and updates the server storage information; and

if electronic information transmitted by the terminal unit contains the file, server information generation means which generates, based on the server storage information, access information including storage location information of the file and identification information of the file stored in the storage area and serving to access the file,

wherein the intermediation means transmits the access information at least to one of the terminal unit and at least one other of the plurality of terminal units.

2. An attached file management system for managing information related to an attached file attached to electronic information transmitted and received by a plurality of terminal units, the system comprising:

intermediation means which intermediates transmission and reception of the electronic information;

file management means which determines whether electronic information transmitted by a terminal unit contains file-related information including storage location information of a file, and:

if the file-related information is contained in the electronic information, the file management means updates server storage information stored in a predetermined storage area based on the file-related information; and

if electronic information transmitted by the terminal unit contains the file-related information, server information generation means which generates, based on the server storage information, access information including storage location information of the file and identification information of the file stored in the storage area and serving to access the file,

wherein the intermediation means transmits the access information to at least one of the terminal unit and at least one other of the plurality of terminal units.

3. The attached file management system according to Claim 1,
wherein the electronic information further comprises an electronic mail, and
the intermediation means transmits the access information to a transmission-destination terminal unit of the electronic mail.

4. The attached file management system according to claim 1,
wherein the server storage information includes last update date-and-time
information of the file,

the file management means determines whether there is a duplicate file
based on the file identification information, the last update date-and-time
information, and the server storage information at least at one of regular time
intervals and in response to a user request, and if there is a duplicate file, the file
management means deletes the duplicate file which does not have the latest last-
update date and time.

5. The attached file management system according to Claim 4,
wherein, if there is a duplicate file, the server information generation means
generates a file-clean-up electronic mail prompting the user to clean up the files,
and

the intermediation means transmits the file-clean-up electronic mail to the
transmission-source terminal unit.

6. The attached file management system according to Claim 4,
wherein the terminal unit includes:
terminal information generation means for generating electronic information
including identification information and storage location information of the file;
communication means for transmitting and receiving the electronic
information;
terminal storage means for storing terminal storage information indicating

identification information and storage location information of a plurality of the files in a predetermined storage area; and

update means for updating the file and the terminal storage information,
wherein:

if there is a duplicate file, the server information generation means generates file-deletion information in order to delete the duplicated file that does not have the latest last-update date and time;

the intermediation means transmits the file-deletion information to the transmission-source terminal unit of the electronic information; and

the update means deletes the duplicate file that does not have the latest last-update date and time based on the file-deletion information, and updates the terminal storage information.

7. The attached file management system according to claim 3,

wherein the file management means manages at least one of an access right of the storage area and the file indicated by the storage location information for each of the terminal units, determines whether the transmission-destination terminal unit has the access right based on an electronic mail transmitted by the terminal unit, and

if the transmission-destination terminal unit does not have the access right, the intermediation means transmits the electronic mail transmitted by the terminal unit to the transmission-destination terminal unit in place of the access information.

8. A program for managing an attached file attached to electronic

information transmitted and received by a plurality of terminal units, which is a computer-readable program, and causes a computer to function as means comprising:

intermediation means which intermediates transmission and reception of the electronic information;

server storage means which stores a plurality of files and server storage information indicating identification information of the relevant files and storage location information in a predetermined storage area;

file management means which determines whether electronic information transmitted by a terminal unit contains a file and:

if the file is contained in the electronic information, the file management means determines whether the information exists in the storage area based on the server storage information; and

if the file is not contained in the electronic information, the file management means stores the file in the storage area and updates the server storage information; and

if electronic information transmitted by the terminal unit contains the file, server information generation means which generates, based on the server storage information, access information including storage location information of the file and identification information of the file stored in the storage area and serving to access the file,

wherein the intermediation means transmits the access information to at least one of the terminal unit and at least one other of the plurality of terminal units.

9. A program for managing information related to an attached file attached to electronic information, which is a computer-readable program, and causes a computer to function as means comprising:

intermediation means which intermediates transmission and reception of the electronic information;

file management means which determines whether electronic information transmitted by a terminal unit contains file-related information including storage location information of a file and:

if the file-related information is contained in the electronic information, the file management means updates server storage information stored in a predetermined storage area based on the file-related information; and

if electronic information transmitted by the terminal unit contains the file-related information, server information generation means which generates, based on the server storage information, access information including storage location information of the file and identification information of the file stored in the storage area and serves for accessing the file,

wherein the intermediation means transmits the access information to at least one of the terminal unit and at least one other of the plurality of terminal units.

10. An information storage medium, which is a computer-readable information storage medium, for storing a program according to Claim 8.

11. A method of managing an attached file, which serves to manage information related to an attached file attached to electronic information

transmitted and received by a plurality of terminal units, the method including steps in which:

a transmission-source terminal unit transmits electronic information to a server,

the server performing the steps of:

determining whether electronic information transmitted by a terminal unit contains a file, and:

if the file is contained in the electronic information, determining whether the file exists in a predetermined storage area; and

if the file is not contained in the electronic information, storing the file and server storage information indicating identification information and storage location information of the file in a predetermined storage area;

if electronic information transmitted by the terminal unit contains the file, generating, based on the server storage information, access information including storage location information of the file and identification information stored in the storage area and serving to access the file; and

transmitting the access information at least to one of the terminal unit and at least one other of the plurality of terminal units.

12. A method of managing an attached file, which serves to manage information related to an attached file attached to electronic information transmitted and received by a plurality of terminal units, the method including steps in which:

a transmission-source terminal unit transmits electronic information to a server,

the server performing the steps of:

determining whether electronic information transmitted by a terminal unit contains file-related information including storage location information of a file;

if the file-related information is contained in the electronic information, updating the server storage information stored in a predetermined storage area based on the file-related information; and

generating, based on the server storage information, access information including storage location information of the file and identification information of the file stored in the storage area and serving to access the file; and

transmitting the access information at least to one of the terminal unit and at least one other of the plurality of terminal units.

13. The method of managing an attached file according to Claim 11, wherein the electronic information further comprises an electronic mail, and the server transmits the access information to the transmission-destination terminal unit of the electronic mail.

14. The method of managing an attached file according to claim 11, wherein the server storage information includes last-update date-and-time information of the file,

the server determines whether there is a duplicate file based on the file identification information and the server storage information at least at one of regular time intervals and in response to a user request, and if there is a duplicate file, the server deletes the duplicate file.

15. The method of managing an attached file according to Claim 14, wherein the server performs the steps of: generating a file-clean-up electronic mail prompting the user to clean up the files if there is a duplicate file; and transmitting the file-clean-up electronic mail to the transmission-source terminal unit.

16. The method of managing an attached file according to Claim 14, wherein the terminal unit performs the steps of: storing a plurality of the files and terminal storage information indicating identification information and storage location information of the files in a predetermined storage area; and generating electronic information including update means for updating the file and the terminal storage information, and the identification information of the files and storage location information of the files, the server performing the steps of: if there is a duplicate file, generating a file-deletion electronic mail in order to delete the duplicate file; and transmitting the file-deletion electronic mail to the transmission-source terminal unit, and the terminal unit performing the steps of: deleting the duplicate file based on the file-deletion electronic mail, and updating the terminal storage information.

17. The method of managing an attached file according to claim 13 wherein the server performs the steps of:

managing at least one of an access right of the storage area and the file indicated by the storage location information for each of the terminal units; determining whether the transmission-destination terminal unit has the access right based on an electronic mail transmitted by the terminal unit, and if the transmission-destination terminal unit does not have the access right, transmitting the electronic mail transmitted by the terminal unit to the transmission-destination terminal unit in place of the access information.

18. The attached file management system according to Claim 2, wherein the electronic information further comprises an electronic mail, and the intermediation means transmits the access information to a transmission-destination terminal unit of the electronic mail.

19. The attached file management system according to claim 2, wherein the server storage information includes last update date-and-time information of the file,

the file management means determines whether there is a duplicate file based on the file identification information, the last update date-and-time information, and the server storage information at least at one of regular time intervals and in response to a user request, and if there is a duplicate file, the file management means deletes the duplicate file which does not have the latest last-update date and time.

20. The attached file management system according to Claim 19, wherein, if there is a duplicate file, the server information generation means generates a file-clean-up electronic mail prompting the user to clean up the files, and

the intermediation means transmits the file-clean-up electronic mail to the transmission-source terminal unit.

21. The attached file management system according to Claim 19,

wherein the terminal unit includes:

terminal information generation means for generating electronic information including identification information and storage location information of the file;

communication means for transmitting and receiving the electronic information;

terminal storage means for storing terminal storage information indicating identification information and storage location information of a plurality of the files in a predetermined storage area; and

update means for updating the file and the terminal storage information,

wherein:

if there is a duplicate file, the server information generation means generates file-deletion information in order to delete the duplicated file that does not have the latest last-update date and time;

the intermediation means transmits the file-deletion information to the transmission-source terminal unit of the electronic information; and

the update means deletes the duplicate file that does not have the latest last-update date and time based on the file-deletion information, and

updates the terminal storage information.

22. The attached file management system according to claim 18, wherein the file management means manages at least one of an access right of the storage area and the file indicated by the storage location information for each of the terminal units, determines whether the transmission-destination terminal unit has the access right based on an electronic mail transmitted by the terminal unit, and

if the transmission-destination terminal unit does not have the access right, the intermediation means transmits the electronic mail transmitted by the terminal unit to the transmission-destination terminal unit in place of the access information.

23. An information storage medium, which is a computer-readable information storage medium, for storing a program according to Claim 9.

24. The method of managing an attached file according to Claim 12, wherein the electronic information further comprises an electronic mail, and the server transmits the access information to the transmission-destination terminal unit of the electronic mail.

25. The method of managing an attached file according to claim 12, wherein the server storage information includes last-update date-and-time information of the file, the server determines whether there is a duplicate file based on the file

identification information and the server storage information at least at one of regular time intervals and in response to a user request, and if there is a duplicate file, the server deletes the duplicate file.

26. The method of managing an attached file according to Claim 25,

wherein the server performs the steps of:

generating a file-clean-up electronic mail prompting the user to clean up the files if there is a duplicate file; and

transmitting the file-clean-up electronic mail to the transmission-source terminal unit.

27. The method of managing an attached file according to Claim 25,

wherein the terminal unit performs the steps of:

storing a plurality of the files and terminal storage information indicating identification information and storage location information of the files in a predetermined storage area; and

generating electronic information including update means for updating the file and the terminal storage information, and

the identification information of the files and storage location information of the files,

the server performing the steps of:

if there is a duplicate file, generating a file-deletion electronic mail in order to delete the duplicate file; and

transmitting the file-deletion electronic mail to the transmission-source terminal unit, and

the terminal unit performing the steps of:
deleting the duplicate file based on the file-deletion electronic mail, and
updating the terminal storage information.

28. The method of managing an attached file according to claim 24
wherein the server performs the steps of:

managing at least one of an access right of the storage area and the file indicated by the storage location information for each of the terminal units; determining whether the transmission-destination terminal unit has the access right based on an electronic mail transmitted by the terminal unit, and if the transmission-destination terminal unit does not have the access right, transmitting the electronic mail transmitted by the terminal unit to the transmission-destination terminal unit in place of the access information.